DOCUMENT RESUME

ED 056 794 32 RC 005 693

TITLE Factors Affecting Attitudes Toward Education Among Indian High School Students in Phoenix Area Off-Reservation Schools and Mexican-American and Black Students in Phoenix Union High School.

INSTITUTION Bureau of Indian Affairs (Dept. of Interior), Phoenix, Ariz.

PUB DATE 71

NOTE 77p.

EDRS PRICE MF-$0.65 HC-$3.29

DESCRIPTORS Age Differences; *American Indians; Analysis of Variance; *Attitudes; Behavior; *Boarding Schools; Cultural Differences; Federal Programs; Mexican Americans; Negroes; Questionnaires; Rural Urban Differences; *Secondary School Students; *Self Concept; Sex Differences; Tables (Data); Tribes

ABSTRACT

The primary purpose of this study was to determine the relationships among selected characteristics to attitudes held by students relative to various aspects of the educational program at Phoenix Indian High School (PIHS), Sherman Indian High School, and Stewart Indian High School. A secondary part of the study compared Indian students' attitudes to those of Mexican American and Black students at Phoenix Union High School (PUHS), an inner-city school. A 65-item instrument was designed to obtain information pertaining to 5 categories: recreation, teachers, self-concept, home attitudes toward school, and value of education. Included in the sample were 578 PIHS, 385 Sherman Indian High, 356 Stewart Indian High, and 1022 PUHS students. The attitudes of students within Phoenix, Sherman, and Stewart Indian schools were analyzed in terms of school, sex, grade level, tribe, years in public school, years in BIA school, supensions, and infractions. Treatment of data consisted of extracting the attitude scores by summing the numerical scores assigned to each response. These raw scores were analyzed using 1-way and 2-way analyses of variance. Several significant relationships were revealed. Among them, it was found that students in the 3 Indian schools had positive attitudes, but PIHS students had more positive attitudes toward all 5 categories than did Stewart and Sherman students. PUHS students showed more favorable attitudes toward self than did students from the Indian high schools. The questionnaire is appended. (LS)

EDO 56794

FAATE

PHOENIX UNION HIGH SCHOOL

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

Conducted through ESEA Title I Funds

FACTORS AFFECTING ATTITUDES TOWARD EDUCATION AMONG INDIAN HIGH SCHOOL STUDENTS IN PHOENIX AREA OFF-RESERVATION SCHOOLS AND MEXICAN-AMERICAN AND BLACK STUDENTS IN PHOENIX UNION HIGH SCHOOL

RECEIVED
NOV 15 1971
NMSU
E.R.I.C.

U.S. DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs, Education

PHOENIX AREA

John Artichoker, Jr.
Area Director

Ray Sorensen
Assistant Area Director
(Education)

David N. Burch
Deputy Assistant Area Director
(Education)

Harriet B. Hilburn
Federal Programs Administrator

Gary L. Mossman
Title I Specialist

FY 1971

ACKNOWLEDGEMENTS

Special acknowledgement is given to all the students in Phoenix Union High School, Phoenix Indian High School, Sherman Indian High School, and Stewart Indian High School for their participation in this study. Additionally, administrators, teachers, and other school staff are thanked for their time given to the administration of the test. Without their support this study would not have been possible.

Our thanks to Mr. Robert Dye, principal, Phoenix Union High School, who gave us his permission to assess the attitudes of the Mexican-American and Black students attending Phoenix Union High School. His cooperation contributed immeasurably to the finished study.

TABLE OF CONTENTS

Part		Page
I.	Introduction	1
	Background of the Study	1
	Purpose and Methods	3
	Likert Scale	4
	Definition of Terms	5
	The Instrument	6
	Statistical Treatment	7
	Analysis Approach	8
II.	Indian Schools	9
	Factors	9
	Results of Analysis	11
	School and Sex	11
	School and Grade	16
	School and Tribe	17
	School and Years in Public School	21
	School and Years in Bureau of Indian Affairs School	23
	School and Suspensions	26
	School and Infractions	27
	California Achievement Test (CAT) Quartiles	27
III.	Comparison of Indian Schools and Phoenix Union High School	31
	Introduction	31
	Factors	31
	School and Sex	33
	School and Age	38
	School and Parent Marital Status	40
	Ethnic Group	40
	School and Grade Level	44
	School and Extracurricular Activities	46
	School and Infractions	48
	School and Suspensions	49
IV.	Summary	53
	Summary of Attitude Comparison	53
	Attitudes in the Three Indian Schools	53
	Attitudes Between Indian Schools and Phoenix Union High School	56
V.	Conclusions and Recommendations	58

LIST OF TABLES

Table		Page
1	Number of Subjects Classified by School and Sex, Grade Level, Tribe, Years in Public Schools, Years in Bureau of Indian Affairs Schools, Suspensions, Infractions, and California Achievement Test Quartiles	10
2	Summary of Analysis of Variance of Attitude Scores Classified by School and Sex	12
3	Mean Scores on Attitudes for Phoenix, Sherman, and Stewart Schools	12
4	Order of Mean Scores on Attitudes for Phoenix, Sherman, and Stewart Indian Schools	14
5	Mean Scores on Attitudes for Male and Female Students . . .	15
6	Mean Scores for Significant Interactions on Attitude Toward Teachers Classified by School and Sex	15
7	Summary of Analysis of Variance of Attitude Scores Classified by School and Grade Level	17
8	Mean Scores on Attitude for Grades 9-10 & 11-12	17
9	Summary of Analysis of Variance of Attitude Scores Classified by School and Tribe	18
10	Mean Scores on Attitude for Papago, Hopi, Apache, and Pima Tribes	18
11	Mean Scores for Significant Interactions on Attitude Toward Recreation Classified by School and Tribe	20
12	Summary of Analysis of Variance of Attitude Scores Classified by School and Years in Public School	21

LIST OF TABLES (Continued)

Table		Page
13	Mean Scores on Attitude for Years in Public School	22
14	Summary of Analysis of Variance of Attitude Scores Classified by School and Years in Bureau of Indian Affairs School	23
15	Mean Scores on Attitude for Years in Bureau of Indian Affairs School	24
16	Mean Scores for Significant Interactions on Attitude Toward Teachers Classified by School and Years in BIA School	25
17	Summary of Analysis of Variance of Attitude Scores Classified by School and Suspensions	26
18	Mean Scores on Attitude for Number of Suspensions	27
19	Summary of Analysis of Variance of Attitude Scores Classified by School and Number of Infractions	28
20	Mean Scores on Attitude for Number of Infractions	28
21	Summary of Analysis of Variance of Attitude Scores Classified by California Achievement Test (CAT) Quartiles	29
22	Number of Subjects Classified by School and Sex, Age, Parent Marital Status, Ethnic Group, Grade Level, Extent of Participation in Extracurricular Activities, Infractions and Suspensions	32
23	Summary of Analysis of Variance of Attitude Scores Classified by School and Sex	33
24	Mean Scores on Attitudes for Phoenix, Sherman, and Stewart Indian Schools and Phoenix Union High School . . .	34

LIST OF TABLES (Continued)

Table		Page
25	Order of Mean Scores* on Attitudes for Phoenix, Sherman and Stewart Indian High Schools and Phoenix Union High School	34
26	Mean Scores on Attitudes for Male and Female Students	37
27	Mean Scores for Significant Interactions on Attitude Toward Teachers Classified by School and Sex	37
28	Summary of Analysis of Variance of Attitudes Scores Classified by School and Age	39
29	Mean Scores on Attitudes Classified by Age Groups	39
30	Summary of Analysis of Variance of Attitude Scores Classified by School and Parent Marital Status	41
31	Mean Scores on Attitudes Classified by Parent Marital Status	41
32	Mean Scores and F-Ratios on Attitudes for Ethnic Groups	43
33	Summary of Analysis of Variance of Attitude Scores Classified by School and Grade Level	45
34	Mean Scores on Attitudes Classified by Grade Level	46
35	Mean Scores for Significant Interactions on Attitudes of Home Toward School Classified by Grade Level	46
36	Summary of Analysis of Variance of Attitude Scores Classified by School and Extent of Participation in Extracurricular Activities	47

LIST OF TABLES (Continued)

Table		Page
37	Mean Scores on Attitude Classified by Extent of Participation in Extracurricular Activities	47
38	Summary of Analysis of Variance of Attitude Scores Classified by School and Number of Infractions Resulting in Report to Parents	48
39	Mean Scores on Attitude Classified by Number of Infractions Resulting in Report to Parents	49
40	Summary of Analysis of Variance of Attitude Scores Classified by School and Suspensions	51
41	Mean Scores on Attitudes Classified by Number of Suspensions	51
42	Mean Scores for Significant Interactions on Attitudes of Home Toward School Classified by School and Number of Suspensions	52

****

LIST OF FIGURES

Figure		Page
1	Profile of Mean Scores on Attitudes Classified by School	13
2	Profile of Significant Interaction Between School and Sex on Attitude Toward Teachers	16
3	Profile of Mean Scores on Attitudes Classified by Tribes	19
4	Profile of Significant Interactions Between School and Tribe	20
5	Profile of Mean Scores on Attitudes Classified by Years in Public School	22
6	Profile of Mean Scores on Attitudes Classified by Years in Bureau of Indian Affairs School	24
7	Profile of Mean Scores for Significant Interactions Between School and Years in Bureau of Indian Affairs School	25
8	Profile of Mean Scores on Attitudes Classified by Quartiles on the California Achievement Test (CAT)	30
9	Profile of Mean Scores on Attitudes Classified by School	35
10	Profile of the Significant Interaction Between School and Sex on Attitude Toward Teachers	38
11	Profile of Mean Scores of Attitudes of Ethnic Groups	43
12	Profile of Significant Interactions on Attitude of Home Toward School Classified by School and Grade	46

LIST OF FIGURES (Continued)

Figure		Page
13	Profile of Significant Interaction on Attitude of Home Toward School Classified by School and Number of Suspensions	52
14	Summary of Significant Relationships Between Attitudes and Personal Characteristics for Phoenix, Sherman, and Stewart Indian Schools	54
15	Summary of Significant Relationships Between Attitudes and Common Personal Characteristics for Phoenix, Sherman and Stewart Indian Schools and Phoenix Union High School	57

****

PART I

INTRODUCTION

Background of the Study

The Phoenix Area Office education branch of the Bureau of Indian Affairs is responsible for the education of approximately five thousand students. This function is carried out through the operation of twenty-one schools three of which are off-reservation boarding high schools. They are Stewart Indian High School in Carson City, Nevada, Sherman Indian High School in Riverside, California, and Phoenix Indian High School in Phoenix, Arizona. Students come from a four state region including California, Nevada, Arizona, and Utah. Although some forty tribal groups can be identified, the predominant enrollment is made up from the Hopi, Papago, Pima, and Apache tribes from Arizona. Thus, the cultural differences are manifold and the need for definitive information about how these differences interact with the institutionality of the schools to influence the student's performance becomes apparent.

It should be noted that attendance at a Bureau school is predicated on several criterion which tend to create an atypical group of students. For example, the majority of the pupils attend a boarding school because they are social referrals. This means they have been dropped from public schools, other Bureau schools, or that they have severe home problems including divorce, death, alcoholism, delinquency, etc.

Bureau school attendance may also occur simply because no school facility is available. In short, the students have typically not had positive experiences in school and they are quite apt to exhibit varying degrees of overt dysfunctional behavior.

Throughout the frequently stormy history of the Bureau of Indian Affairs numerous research studies have been conducted with Indian children. Generally, they have dealt with cultural or linguistic patterns, perceptual differences, or the effect of various instructional strategies. Unfortunately, little has been accomplished relative to self concept and the general attitudes about the education process itself. Personnel from the Phoenix Area Office believed that by assessing the attitudes of Indian students relative to their perceptions of themselves and varying aspects of the educational process a more viable system could be developed. Additionally it was observed that faculty and administrators had through their continued contact with Indian students formulated their own expectancy theories and an extensive attitudinal set which had evolved from arm-chair speculation. In order to ascertain the degree of verity in these opinions, this study was undertaken.

By discussing the nature of our study with both school people and students five factors were identified with a relatively high degree of consistency. These included a student's perception of: recreational activities, his teachers, himself, the parental or "home" attitude about education and value of education. Questions were developed which related to these five factors and were combined into an instrument which was called the FAATE Inventory, i.e., Factors Affecting Attitudes Toward

Education. It is important to realize that no attempt was made to establish any external validity. That is, the data from the inventory was intended only for generalizations among the Indian students in Phoenix Area off-reservation boarding schools.

The second part of this study compares Indian students' attitudes to those of Mexican Americans and Black students at Phoenix Union High School, a public school located in the heart of metropolitan Phoenix. It was believed important by the Phoenix Area Office to ascertain the similarities and differences in attitudes of other ethnic minority groups to the Indian students attending one of three Bureau of Indian Affairs off-reservation boarding schools.

Purpose and Methods

The purpose of this study was to determine the relationships among selected personal characteristics to attitudes held by students relative to various aspects of the educational program at Phoenix Indian High School, Sherman Indian High School, and Stewart Indian High School.

To accomplish this, an instrument was designed to measure five attitudes relative to recreation, teachers, self concept, home toward school, and value of education, as well as a Student Information Sheet to obtain personal characteristics information for each student.

The survey was administered to all students in Phoenix, Sherman, and Stewart Indian schools and, for comparative purposes to a sample population of Phoenix Union High School.

The five attitudes considered in this study are defined as follows:

1. Attitude Toward Recreation - How the student viewed the value and effectiveness of the recreational program at his school as determined by the mean score of his responses to the questions relating to recreation.

2. Attitude Toward Teachers - The student's perception of the teachers in his school as determined by the mean score of his responses to the questions relating to teachers.

3. Attitude Toward Self - The student's perception of himself as determined by the mean score of his responses to the questions relating to self.

4. Attitude of Home Toward School - The student's impression of his parents and/or other family members' attitude toward the school program and education in general as determined by the mean score of his responses to the questions relating to parental school attitude.

5. Attitude Toward Value of Education - The student's conception of the significance of education for him as determined by the mean score of his responses to the questions relating to education.

Likert Scale

The Likert Scale is a method applied to the analysis of responses on a seven point continuum which provides a value indicating the degree of agreement either positive or negative to a given statement. Typically included in this study a forced choice situation was created by eliminating

the "No Opinion" response thus reducing the continuum to four points. One, "1", was the most positive response and corresponded to the choice, "Strongly Agree." At the negative extreme "7" indicated "Strongly Disagree." Values of "3" and "5" completed the spectrum with "3" equated to "Agree" and "5" to "Disagree." The construction of this scale results in the association of a low numerical score with a positive attitude and a high score with a negative attitude.

Definition of Terms

Attitudes = An attitude is that which is inferred from an individual's predisposition to react or behave in a certain manner toward an object or entity in question.

Mean = The mean is the sum of the scores divided by the number of scores. This term is synonymous with average.

Quartile = The quartile deviation indicates the scatter or spread of the middle 50 percent of the scores taken from the median.

Significant Difference = A significant difference occurs in this study when the computed F-ratio between two or more means is equal to or greater than the critical F-ratio necessary for significance at the .05 level.

Level of Significance = This study utilized an .05 level of significance. Simply stated this means that when an .05 level of significance exists there is only a 5% probability with the results occurred by chance.

Analysis of Variance = Analysis of variance is a statistical technique which provides a method to compare two or more mean scores for levels

of significance.

Scheffe Comparison = This statistical method allows one to compare mean scores when there are more than two groups with significantly different mean scores. Example: One can compare two group means against a third group mean.

F-Ratio = The F-ratio is used to determine if there is a significant variance between the mean scores. In this study .05 has been adopted as the level of significance.

Interaction = The significant interaction occurs when two factors affect the criterion. For example, if the two factors, school and gender, prove significant on the F-ratio, the significance is dependent on both school and gender. Example: Male and female students differ from school to school.

Dependence = The term dependence refers to the situation that occurs when one school mean for a particular factor such as attitude toward the school, differs significantly from another school's mean on the same factor.

Dual Dependence = Dual dependence is synonymous significant interaction.

The Instrument

The instrument used in this study was the Likert Attitude Instrument, consisting of 65 items pertaining to recreation, teachers, self, attitude of home toward school, and value of education.

While a Semantic Differntial instrument was also included in the survey questionnaire to measure the same attitudes, the Likert instrument

findings were used in the analysis because they were more indicative of the attitudes under consideration.

The instruments used at the Indian schools and at Phoenix Union High School were the same, but redesigned in more compact format for use at Phoenix Union High School. They are included in the Appendix A and B.

The items were randomized so that items in each category of attitudes were met not read all together. This procedure was used so that a student would not develop a "set" toward one kind of item and respond in the same manner toward each one in the category.

Statistical Treatment

Treatment of the data consisted of extracting the attitude scores by merely summing the numerical scores assigned to each response. These raw scores were analyzed by using one-way and two-way analysis of variances.

For example, in a two-way analysis of variance the scores are classified by school and by sex (two-ways). The analysis of variance yielded three F-ratios: One to test for differences between the mean scores for schools, one to test the difference between mean scores for male and female students, and one to test the difference between male and female students from school to school. Thus, the two-way analysis of variance tested the attitudes between schools, between sexes, and between sexes from school to school.

Because there were more than two schools, a significant F-ratio merely indicated that there were differences in attitudes between the schools. In

order to isolate the differences, another statistical treatment was used, the Scheffe method for making comparisons between the mean scores for two schools at a time.

An example of a one-way analysis of variance was that for ethnic groups. The mean scores for the ethnic groups were compared with one F-ratio. The significant F-ratio merely indicated that the ethnic groups had different attitudes. Then the Scheffe method was used to compare pairs of means in order to locate the difference.

Analysis Approach

The analytical approach used in interpreting the results of statistical treatment was to present the table of F-ratios, explain which attitudes had significant differences, then present a table of mean scores in order to establish which groups had the more positive attitudes. Along with the table of mean scores a profile of mean scores was presented to aid in the interpretation.

PART II

I N D I A N S C H O O L S

Factors

The purpose of this analysis was to determine how the five attitudes were related to the following personal characteristics.

1. Sex
2. Grade Level
3. Tribe: Pima
   Hopi
   Apache
   Papago
4. School
5. Years in Public School
6. Years in Bureau of Indian Affairs Schools
7. Suspensions
8. Infractions
9. California Achievement Test Quartiles (Phoenix)

The data categories for the above classification variables are shown in Table 1.

Table 1

Number of Subjects Classified by School and Sex, Grade Level, Tribe, Years in Public Schools, Years in Bureau of Indian Affairs Schools, Suspensions, Infractions, and California Achievement Test Quartiles

Classification Category	Indian Schools		
	Phoenix Indian	Sherman Indian	Stewart Indian
Sex			
Male	314	168	183
Female	264	217	173
Grade Level			
9-10	313	160	183
11-12	264	216	173
Tribe			
Papago	155	53	54
Hopi	154	103	16
Apache	108	50	82
Pima	42	48	77
Years in Public School			
None	232	117	73
1-2	92	54	55
3-4	72	38	46
5-6	39	30	51
7+	156	131	182
Years in BIA School			
None	98	53	52
1-2	102	79	127
3-4	101	79	103
5-6	48	34	40
7+	242	126	84
Suspensions			
Never	536	314	316
One or more	76	71	94
Infractions			
Never	387	221	242
One or more	225	164	168
C.A.T. Quartiles			
1	153	-	-
2	153	-	-
3	153	-	-
4	153	-	-

Results of Analysis

School and Sex

Scores on attitudes were analyzed by school and sex, and F-ratios were computed for school, sex, and interaction between school and sex as shown in Table 2. The lower the score, the more positive the attitude.

The F-ratios for teachers, self, home attitude toward school and value of education attitudes were significant at the 0.01, or 1%, probability that the differences in attitude mean scores between schools in each category are merely a result of chance.

In order to determine differences between pairs of schools, the mean scores listed in Table 3 by school and attitude were tested for differences using the Scheffe technique for testing for significance between pairs of means. Significant differences were shown in Table 4 where schools were listed in order from lowest score (positive attitude) to highest score (negative attitude) and underlined if there was no significant difference.

Phoenix had a more positive attitude than both Stewart and Sherman on attitudes toward recreation, teachers, self, home toward school, and value of education, and Stewart and Sherman differed only in attitudes toward self.

Mean scores were also graphically displayed in Figure 1. Keeping in mind that a lower score is indicative of a positive attitude, it can be seen that Phoenix shows a consistently more positive attitude than Sherman or Stewart on all five graphs. The attitude of home toward education is more positive than the other four categories in all three schools.

Table 2

Summary of Analysis of Variance of Attitude Scores
Classified by School and Sex

Attitude	F-Ratio		
	School	Sex	Education
Recreation	3.14*	3.53	1.36
Teachers	17.28**	1.48	4.07*
Self	7.51**	5.46*	0.32
Home Attitude Toward School	8.16**	2.38	1.07
Value of Education	14.57**	14.52**	1.05

* $p < 0.05$
** $p < 0.01$

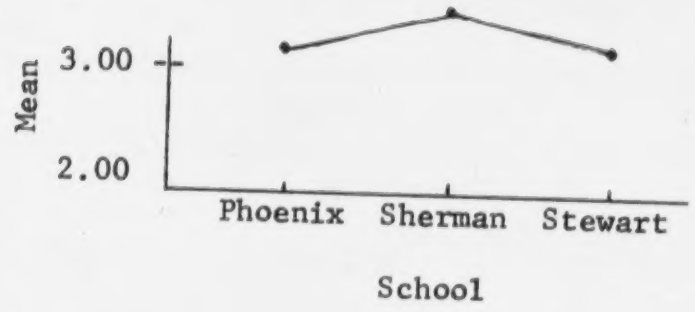
Table 3

Mean Scores on Attitudes for Phoenix, Sherman, and
Stewart Schools

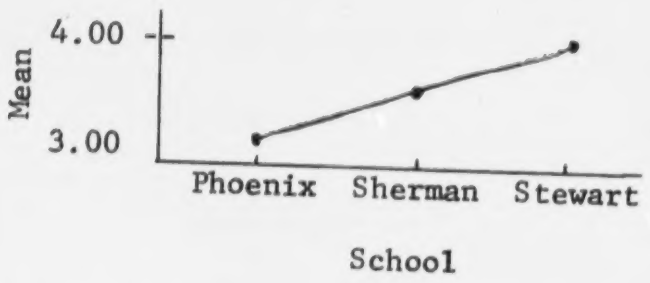
Attitude	Indian Schools		
	Phoenix	Sherman	Stewart
Recreation	3.46	3.53	3.50
Teachers	3.13	3.32	3.42
Self	3.46	3.54	3.59
Home Attitude Toward School	2.54	2.73	2.75
Value of Education	2.81	2.95	3.01

Figure 1. Profile of Mean Scores on Attitudes Classified by School

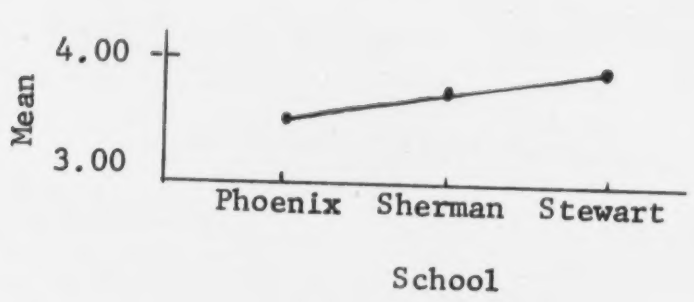
(a) Recreation



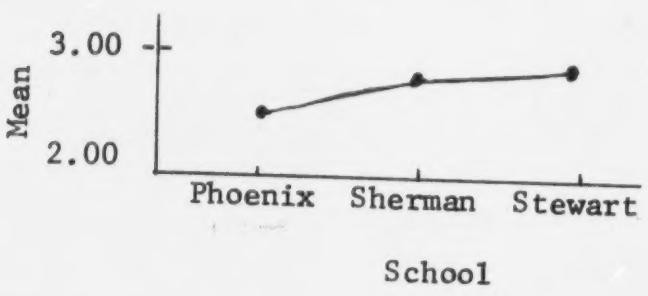
(b) Teachers



(c) Self



(d) Home Attitude Toward Education



(e) Value of Education

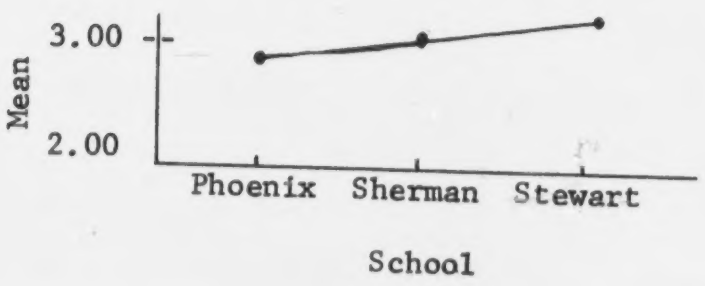


Table 4

Order of Mean Scores* on Attitude for Phoenix, Sherman, and Stewart Indian Schools

Attitude	Indian Schools		
	1	2	3
Recreation	Phoenix	Stewart	Sherman
Teachers	Phoenix	Sherman	Stewart
Self	Phoenix	Sherman	Stewart
Home Attitude Toward School	Phoenix	Sherman	Stewart
Value of Education	Phoenix	Sherman	Stewart

* Underlining indicates no significant difference between schools so joined.

Sex. The F-ratios for sex which were significant at the 0.05 level were the attitudes toward self and value of education, as shown in Table 5. There were, therefore, significant differences in attitudes between the sexes in these two categories. Inspection of the means shows that females had more positive attitudes on the two attitudes showing significant differences.

Interaction. The F-ratio for interaction among classification and attitude variable was significant at the 0.05 level on attitude toward teachers. When male and female students were considered within each school, as recorded in Table 6, the dual dependence of school and sex upon the attitude toward teachers was revealed. For example, in Phoenix the females had more positive attitudes while in Stewart the males had more positive attitudes, and in Sherman the scores were almost

the same. Thus, the attitude toward teachers depended not only on the school, but also on sex. This interaction is also shown in profile in Figure 2. Notice also that both male and female scores in Phoenix were lower (positive) than the lowest scores in either of the other two schools.

Table 5

Mean Scores on Attitudes for Male and Female Students

Attitude	Sex		Sig.[a]
	Male	Female	
Recreation	3.52	3.47	NS
Teachers	3.32	3.27	NS
Self	3.57	3.50	Sig.
Home Attitude Toward School	2.71	2.64	NS
Value of Education	2.99	2.87	Sig.

[a] NS = Not significantly different

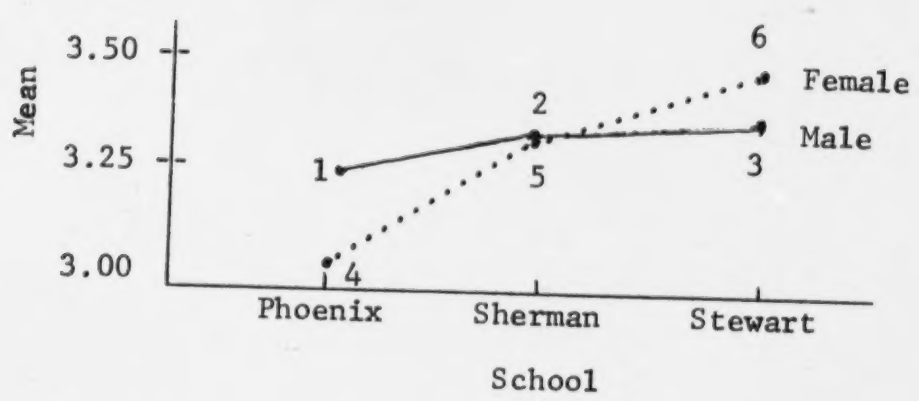
Sig = Significantly different

Table 6

Mean Scores for Significant Interactions on Attitude Toward Teachers Classified by School and Sex

School	Sex	
	Male	Female
Phoenix	3.24	3.03
Sherman	3.33	3.32
Stewart	3.38	3.45

Figure 2. Profile of Significant Interaction Between School and Sex on Attitude Toward Teachers



School and Grade. Attitude scores were classified by school and grade and analysis of variance was computed and summarized in Table 7. The results for school were about the same as when scores were classified by school and sex. That is, the same differences in attitudes according to school were evident, regardless of the other characteristic classified with it, such as sex or grade. Therefore, discussion of school results was omitted in this section.

Grade. Significant differences between grade levels were demonstrated by the F-ratios for attitudes toward recreation, self, and value of education. The values of the mean scores, listed in Table 8, show that the students in the 11th and 12th grades scored significantly more positive than the students in the 9th and 10th grades on these attitudes.

Interaction. None of the F-ratios were significant. That is, the differences in attitudes of students according to grade level were consistent regardless of the school attended. Thus, there was no interaction between school and grade.

Table 7

Summary of Analysis of Variance of Attitude Scores
Classified by School and Grade Level

Attitude	F-Ratios		
	School	Grade Level	Interaction
Recreation	4.49*	7.87**	0.05
Teachers	15.21**	0.81	0.25
Self	6.08**	8.73**	0.24
Home Attitude Toward School	8.35**	0.37	1.22
Value of Education	13.91**	5.71*	0.89

* $p < 0.05$
** $p < 0.01$

Table 8

Mean Scores on Attitude for Grades 9-10 & 11-12

Attitude	Grade Levels		Sig.
	9-10	11-12	
Recreation	3.53	3.46	Sig.
Teachers	3.31	3.27	NS
Self	3.56	3.48	Sig.
Home Attitude Toward Schl	2.68	2.65	NS
Value of Education	2.95	2.87	Sig.

School and Tribe. Measures of attitudes were classified by school for Papago, Hopi, Apache, and Pima Indian tribes. These four tribes were the most common of those represented by the students in the three schools studied. Differences between tribes and interactions between school and tribe were tested with the analyses of variance summarized in Table 9. Differences between schools were approximately the same as shown previously and, therefore, were omitted in this section.

Tribe. F-ratios for the attitudes toward recreation, self, home toward school, and value of education were significant at the 0.01 level, indicating attitude differences between tribes for these four categories in all three schools. Mean scores for each pair of tribes were listed in Table 10. Significant differences were displayed geometrically in Figure 7. The results were as follows:

1. Hopi and Pima were not significantly different, but both were more positive on attitude toward recreation than Papago and Apache, which were significantly different.

2. Pima had a more positive mean score than the remaining three tribes, and Papago and Hopi were not significantly different from each other on the attitude toward self. That is, the Pima students held more positive attitudes toward themselves than the other three tribes, and Papago and Hopi students did not differ from each other in this respect.

Table 9

Summary of Analysis of Variance of Attitude Scores Classified by School and Tribe

Attitude	F-Ratios		
	School	Tribe	Interaction
Recreation	2.88	6.48	3.19**
Teachers	3.72*	2.02	1.76
Self	4.98**	10.42**	1.89
Home Attitude Toward School	3.72*	8.52**	2.10
Value of Education	4.16**	15.13**	1.41

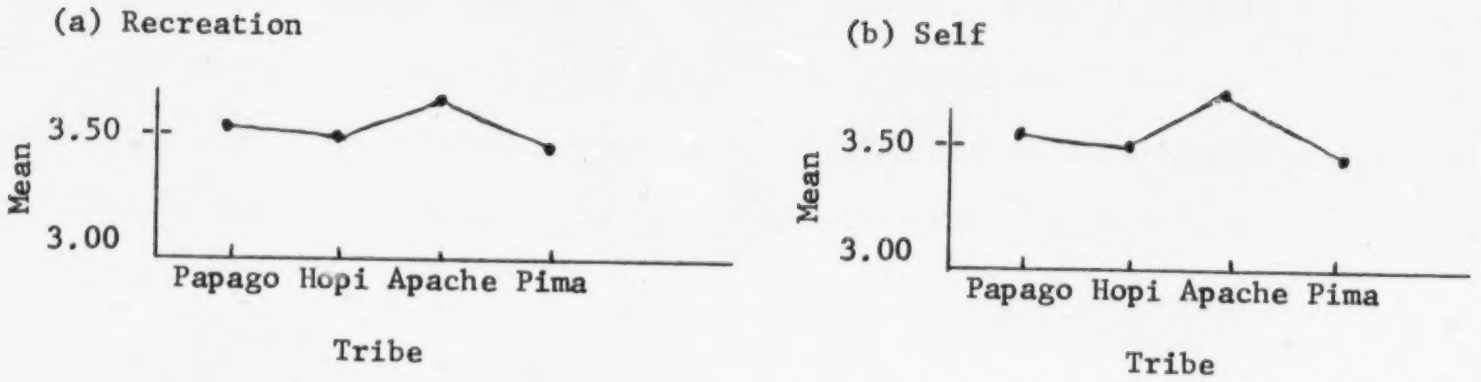
* $p < 0.05$
** $p < 0.01$

Table 10

Mean Scores on Attitude for Tribes Papago, Hopi, Apache, and Pima

Attitude	Tribes				Sig.
	Papago	Hopi	Apache	Pima	
Recreation	3.52	3.47	3.62	3.43	Sig.
Teachers	3.19	3.15	3.21	3.34	NS
Self	3.57	3.51	3.72	3.41	Sig.
Home Toward School	2.71	2.51	2.98	2.69	Sig.
Value of Education	2.88	2.79	3.17	2.88	Sig.

Figure 3. Profile of Mean Scores on Attitudes Classified by Tribes



3. Hopi had a more positive mean score than Papago and Apache on attitude of home toward school and value of education, and Papago, Hopi and Pima had mean scores significantly lower than Apache. From this profile it can be seen that the Hopis and Pimas had a consistently lower (more positive) score than the Papagos and the Apaches in all four categories show, while the Apaches showed dramatically more negative attitudes than the other three tribes in all four categories.

Interaction. Significant interactions were found in mean scores for recreation when classified by school and tribe, as recorded in Table 11. These interactions were displayed with profiles in Figure 4.

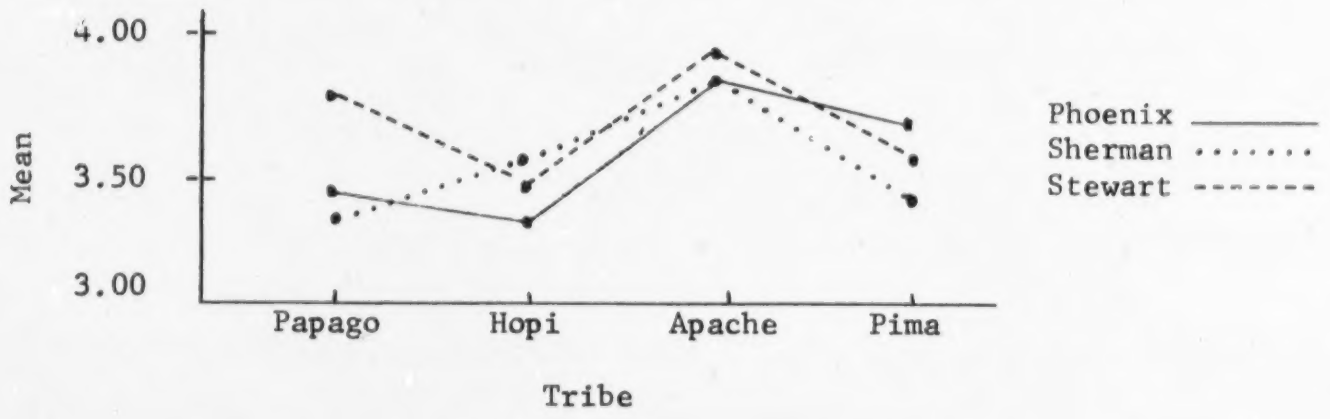
Phoenix and Stewart Papagos were not significantly different in attitude toward recreation, but both had more positive mean scores than Sherman Papagos, Phoenix, Sherman, and Stewart Hopis, Apaches, and Pimas were not significantly different on this attitude. Although the most negative attitudes were scored by Sherman Papagos, it can be noted that Apaches in all three schools scores consistently more negative than the rest.

Table 11

Mean Scores for Significant Interactions on Attitude Toward Recreation Classified by School and Tribe

School	Tribe			
	Papago	Hopi	Apache	Pima
Phoenix	3.46	3.39	3.60	3.46
Sherman	3.72	3.49	3.60	3.45
Stewart	3.38	3.52	3.66	3.38

Figure 4. Profile of Significant Interactions Between School and Tribe.



School and Years in Public School. The two-way analysis of variance by school and number of years in public school results in significant differences between categories of years, as shown in Table 12.

Number of Years. The F-ratios for recreation and teachers were significant at 0.05 level of significance. Mean scores on attitude toward recreation for the five categories of number of years in public school were listed in Table 13 and graphed in Figure 5. The results were as follows:

1. The group of students with zero years in public school had a more positive attitude than students with 1-2 and 5-6 years in public schools on attitude toward recreation. Students with 7+ years in public school had a more positive attitude than students with 1-2 and 5-6 years of public school. Students with 3-4 years of public school had a more positive attitude than students with 5-6 years of public school.

2. Students with zero, 1-2 and 3-4, and 5-6 years in public school did not differ significantly from each other on attitude toward teachers. Students with zero and 3-4 years in public school had a more positive attitude toward teachers than students with 7+ years of public school. Attitude toward teachers become more negative in proportion to the number of years spent in public school.

Table 12

Summary of Analysis of Variance of Attitude Scores Classified by School and Years in Public School

Attitude	F-Ratio		
	School	No. Years in Public School	Interaction
Recreation	4.54*	2.87*	1.13
Teachers	8.70**	4.81**	0.40
Self	10.83**	1.78	1.25
Home Attitude Toward School	5.44**	2.20	0.31
Value of Education	13.40**	1.97	0.84

* p 0.05
** p 0.01

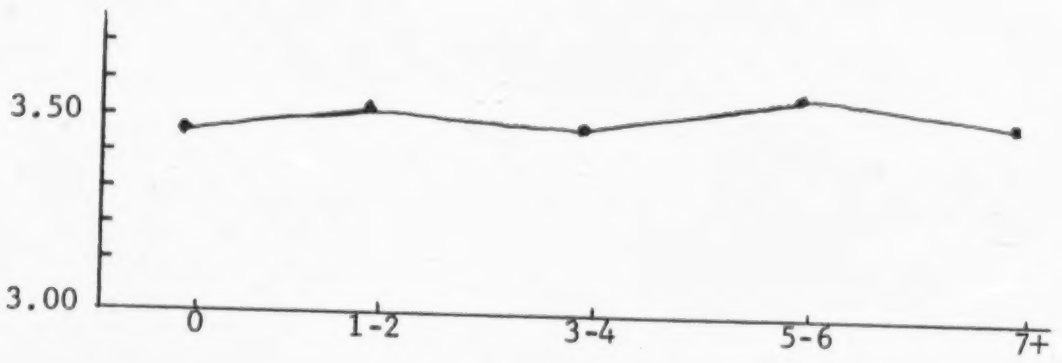
Table 13

Mean Scores on Attitude for Years in Public School

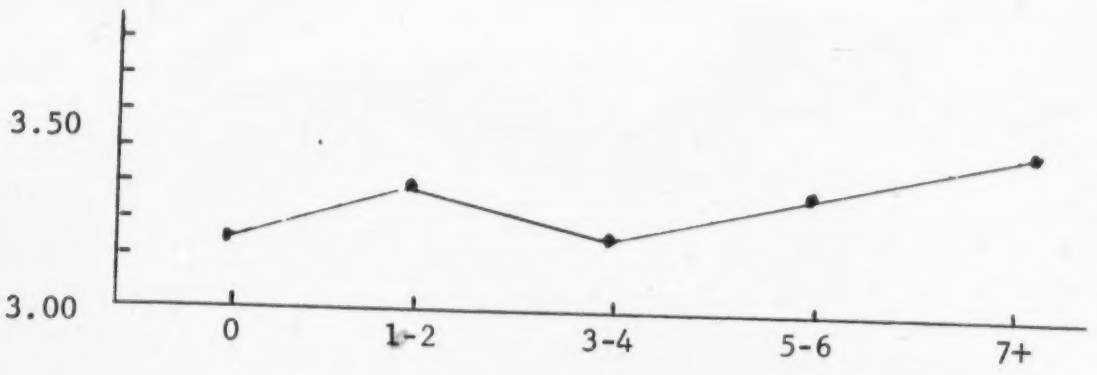
Attitude	Years in Public School					Sig.
	0	1-2	3-4	5-6	7+	
Recreation	3.47	3.55	3.49	3.59	3.46	Sig.
Teachers	3.15	3.28	3.16	3.29	3.43	Sig.
Self	3.56	3.55	3.53	3.61	3.47	NS
Home Attitude Toward School	2.71	2.68	2.49	2.69	2.71	NS
Value of Education	2.91	2.90	2.86	3.01	2.95	NS

Figure 5. Profiles of Mean Scores on Attitudes Classified by Years in Public School

(a) Recreation



(b) Teachers



Interaction. The F-ratio for interaction on attitude toward teachers was not significant. That is, the differences in attitude toward teachers between categories of years in public school were consistent regardless of school attended.

School and Years in BIA School

Classification of subjects by school and number of years in the Bureau of Indian Affairs school, and analysis of variance resulted in the usual significant differences between schools on each of the attitudes as shown in Table 14, but also resulted in significant differences between categories of years and one significant interaction between school and number of years.

Number of Years. There were significant differences in the attitudes towards recreation and value of education. Means for subjects classified by number of years in Bureau of Indian Affairs schools were listed in Table 15 and graphically displayed in the profiles in Figure 6.

1. Students with 3-4, 4-5 and 7+ years in Bureau of Indian Affairs school had a more positive attitude toward teachers than students with zero and 1-2 years in BIA.

Table 14

Summary of Analysis of Variance of Attitude Scores Classified by School and Years in Bureau of Indian Affairs School

Attitude	F-Ratio		
	School	No. Years in Public School	Interaction
Recreation	2.66	0.29	0.84
Teachers	8.97**	4.93**	3.34**
Self	5.31**	1.03	0.56
Home Attitude Toward School	6.69**	2.27	0.76
Value of Education	7.66**	5.18**	0.63

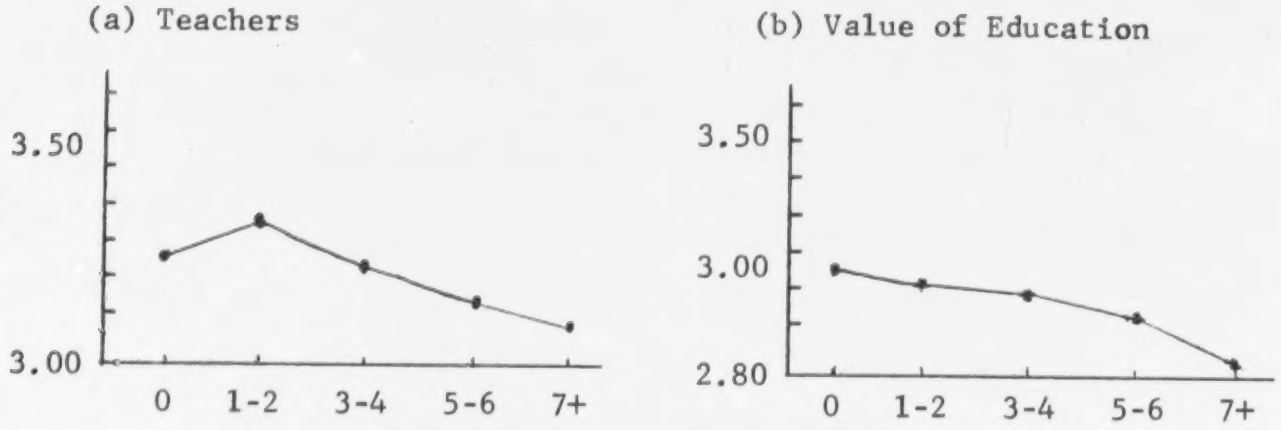
*p = 0.05 **p = 0.01

Table 15

Mean Scores on Attitude for Years in Bureau of Indian Affairs School

Attitude	Years in BIA School					Sig.
	0	1-2	3-4	5-6	7+	
Recreation	3.50	3.50	3.51	3.50	3.47	NS
Teachers	3.39	3.43	3.26	3.24	3.17	Sig.
Self	3.56	3.55	3.53	3.47	3.52	NS
Home Toward School	3.79	2.77	2.67	2.71	2.56	NS
Value of Education	3.04	3.00	2.94	2.92	2.81	Sig.

Figure 6. Profile of Mean Scores on Attitudes Classified by Years in Bureau of Indian Affairs School



2. Similarly, students with 7+ years in BIA school had a more positive attitude toward value of education than students with zero, 1-2, and 3-4 years in BIA school, and these latter three groups did not differ significantly from each other and from the group with 5-6 years in BIA.

   The indication appears to be that the longer a student attended a BIA school, the more positive his attitude toward teachers and value of education.

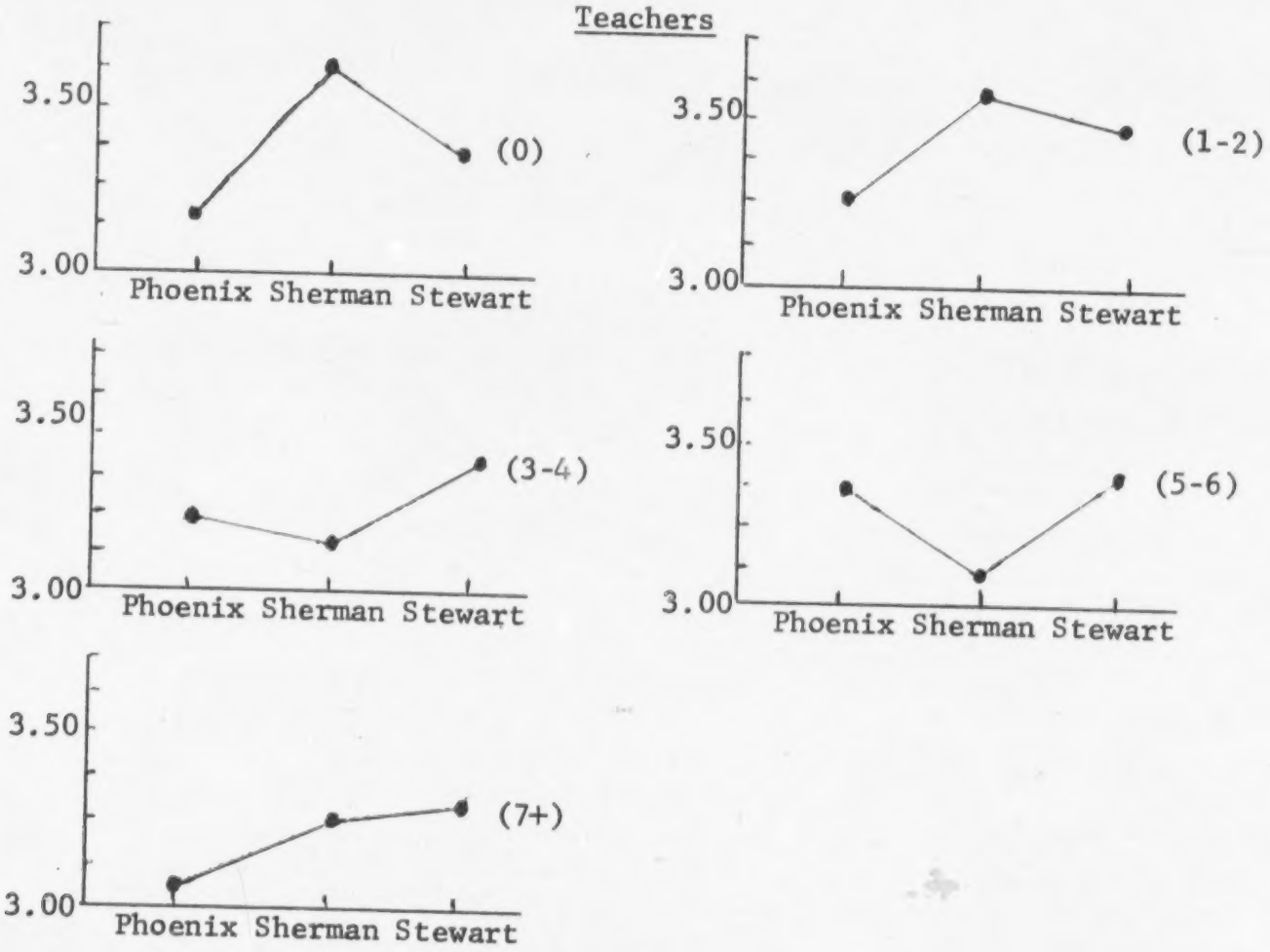
Interaction. Mean scores classified by school and number of years in the BIA school were recorded in Table 16. Significant interactions between these means are graphed in Figure 7 in order to geometrically describe the significant interactions.

Table 16

Mean Scores for Significant Interactions on Attitude Toward Teachers Classified by School and Years in BIA School

School	Years in BIA School				
	0	1-2	3-4	5-6	7+
Phoenix	3.15	3.22	3.20	3.30	3.02
Sherman	3.62	3.58	3.14	3.06	3.22
Stewart	3.41	3.51	3.44	3.37	3.28

Figure 7. Profile of Mean Scores for Significant Interactions Between School and Years in Bureau of Indian Affairs School



The five groups of students within Phoenix and Sherman were not significantly different in attitude toward teachers, but the group with 7+ years in Stewart had more positive attitudes than the groups with 1-2 and 3-4 years.

School and Suspensions

Subjects were classified by school and number of suspensions in order to test for differences between categories of number of suspensions and for interactions between school and number of suspensions. F-ratios for these tests were listed in Table 17.

Number of Suspensions. Number of suspensions were categorized as zero and one or more. F-ratios for the comparisons between attitudes home toward school and value of education and the number of suspensions were significant at the 0.01 level. Observation of Table 18 shows that in each comparison of mean scores, the subjects with no suspensions had more positive attitude scores than subjects with one or more suspensions. That is, students who had not been suspended at all had more positive attitudes.

Interactions. There were no significant interactions between school and number of suspensions.

Table 17

Summary of Analysis of Variance of Attitude Scores Classified by School and Suspensions

Attitude	F-Ratio		
	School	Suspensions	Interaction
Recreation	1.28	1.76	1.03
Teachers	4.42*	1.48	2.57
Self	3.14*	1.68	0.27
Home toward School	1.24	7.16**	2.21
Value of Education	4.84**	9.90**	1.66

*p = 0.05 **p = 0.01

Table 18

Mean Scores on Attitude for Number of Suspensions

Attitude	Number of Suspensions		Sig.
	Never	One or More	
Recreation	3.49	3.53	NS
Teachers	3.28	3.34	NS
Self	3.52	3.57	NS
Home Attitude Toward School	2.64	2.81	Sig.
Value of Education	2.90	3.03	Sig.

School and Infractions

Differences between the categories of number of infractions never and one or more and the interactions between school and infractions on each attitude were examined with analyses of variance summarized in Table 19.

Number of Infractions. The F-ratios for the attitudes toward teachers, self, home toward school, and value of education were significant at the 0.05 level. Comparison of the mean scores for each category of number of infractions, shown in Table 20, indicates the relative direction of attitudes for the two categories. Each comparison shows the group with lower mean score (more positive attitude) to be the group with no infractions, with exception of recreation, which was not significant.

Interaction. None of the F-ratios were significant at the 0.05 level, so there were no significant interactions between school and number of infractions.

Table 19

Summary of Analysis of Variance of Attitude Scores Classified by School and Number of Infractions

Attitude	F-Ratios		
	School	Infractions	Interaction
Recreation	1.17	2.34	1.90
Teachers	5.35**	24.33**	1.26
Self	1.55	13.09**	0.07
Home Toward School	3.16*	13.55**	0.54
Value of Education	1.49	34.42**	0.57

* $p < 0.05$
** $p < 0.01$

Table 20

Mean Scores on Attitude for Number of Infractions

Attitude	Number of Infractions		Sig.
	Never	One or More	
Recreation	3.48	3.51	NS
Teachers	3.20	3.40	Sig.
Self	3.48	3.58	Sig.
Home Toward School	2.59	2.77	Sig.
Value of Education	2.84	3.02	Sig.

California Achievement Test (CAT) Quartiles

Students' CAT scores were converted to quartiles and attitudes of the students within the four quartiles were compared. Mean scores and F-ratios were recorded in Table 21. The F-ratios for recreation, self, home toward school, and value of education were significant at the 0.05 level.

Table 21

Summary of Analysis of Variance of Attitude Scores Classified by California Achievement Test (CAT) Quartiles

Attitude	California Achievement Test Quartiles				F-Ratio
	1	2	3	4	
Recreation	3.57	3.48	3.45	3.31	9.22**
Teachers	3.16	3.07	3.09	3.21	1.00
Self	3.57	3.43	3.46	3.28	7.21**
Home toward School	2.85	2.55	2.55	2.17	15.22**
Value of Education	3.06	2.76	2.75	2.59	18.25**

*$p < 0.05$

**$p < 0.01$

Profiles of the resulting relationships were graphed in Figure 8:

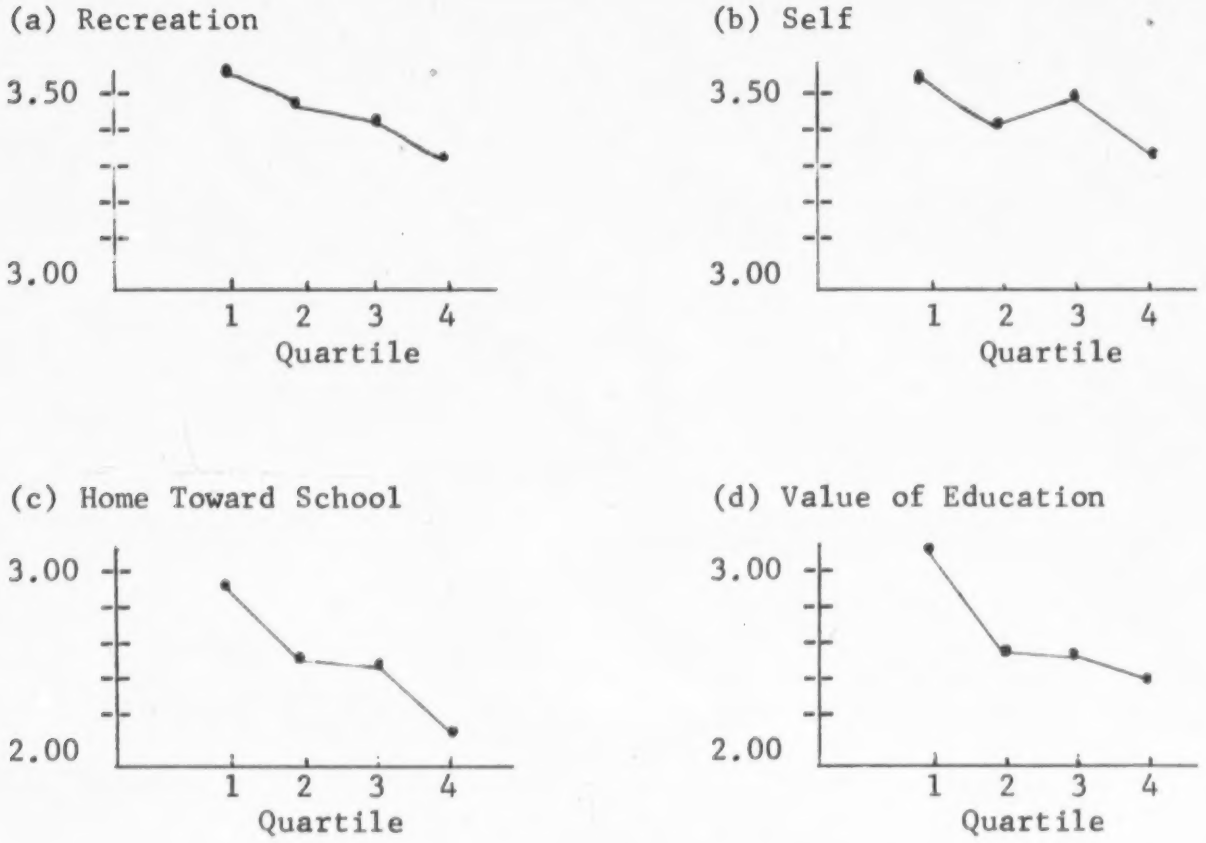
1. Students within quartiles two and three did not have significantly different mean scores on attitude toward recreation, but the students within the fourth quartile had a more positive attitude than the other quartiles, and students within quartiles two and three had more positive attitudes than those in quartile one.

2. Those students within the fourth quartile had a more positive attitude toward self than the students in the other three quartiles.

3. Students within the fourth quartile had a more positive attitude of home toward school than those students in three remaining quartiles. The mean scores for students in the remaining three quartiles were not significantly different.

4. Students within quartiles two and three did not differ significantly in attitude toward value of education. However, those students in quartile one had a less positive attitude than the students in the three remaining quartiles. Those in the fourth quartile had a more positive attitude than those in the first three quartiles.

Figure 8. Profile of Mean Scores on Attitudes Classified by Quartiles on the California Achievement Test (CAT)



Quartile 1 = the lowest California Achievement Test scores

Quartile 2 = the second lowest California Achievement Test scores

Quartile 3 = the second highest California Achievement Test scores

Quartile 4 = the highest California Achievement Test scores

P A R T I I I

Comparison of Indian Schools and Phoenix Union High School

Introduction

In order to ascertain the similarities and/or differences of attitudes of Indian students to Black and Mexican-American students, attitude scores of students within the same three Indian schools and students within Phoenix Union High School were classified and analyzed in order to determine the relationship between attitudes and personal characteristics common to these four schools.

Analysis Factors

The analysis was accomplished in order to determine how the five attitudes were related to the following personal characteristics:

1. Sex
2. Age
3. Parent Marital Status
4. Ethnic Group
5. Grade Level
6. Participation in Extracurricular Activities
7. Infractions
8. Suspensions

The number of students in each category of the above classification variables are shown in Table 22.41

Table 22

Number of Subjects Classified by School and Sex, Age, Parent Marital Status, Ethnic Group, Grade Level, Extent of Participation in Extracurricular Activities, Infractions and Suspensions

Classification Category	School			
	Phoenix	Sherman	Stewart	PUHS
Sex				
Male	314	168	183	593
Female	264	217	173	429
Age				
<16	211	86	147	655 (<17)
16+	401	299	263	367 (17 +)
Parent Marital Status				
Living together	410	232	227	651
Not living together	196	142	177	366
Ethnic Group				
Mexican American	0	0	0	639
Black	0	0	0	294
Papago	155	53	54	0
Hopi	154	103	16	0
Apache	108	50	82	0
Pima	42	48	77	0
Other	153	131	181	81
Grade Level				
9-10	313	160	183	587
11-12	264	216	173	426
Extracurricular Activities				
Sometimes to very often	425	287	329	604
Almost Never to Never	187	98	81	414
Infractions				
Never	387	221	242	744
One or more	225	164	168	272
Suspensions				
Never	536	314	316	825
One or more	76	71	94	199
Total	612	385	410	1024

Results of Analysis

School and Sex

Scores on attitudes were classified by school and sex. F-ratios were computed for school, sex and interaction between school and sex as shown in Table 23; where F-ratios were significant, the Scheffe method of comparing pairs of means was used to isolate the differences in means indicated by a significant F-ratio.

School. All F-ratios were significant at the 0.01 level, with exception of attitude toward recreation, which was significant at 0.05. In order to determine differences between pairs of schools, the mean scores listed in Table 24 by school and attitude were tested for differences using the Scheffe method of comparison. Significant differences were shown in Table 25, where schools were listed from lowest score to highest score and underlined if there was no significant difference.

1. Phoenix had a significantly lower (more positive) score in attitude toward recreation than Stewart, Sherman, and PUHS, which were not significantly different.

2. Phoenix had a significantly lower (more positive) score in attitude toward teachers than the scores for Sherman, Stewart, and PUHS; Sherman and Stewart were not significantly different, but had attitude scores which were more positive than the scores for PUHS.

Table 23

Summary of Analysis of Variance of Attitude Scores
Classified by School and Sex

Attitude	F-Ratio		
	School	Sex	Interaction
Recreation	3.09*	1.49	2.26
Teachers	75.77**	4.45*	3.68*
Self	43.46**	14.83**	1.05
Home toward School	38.48**	3.60	0.81
Value of Education	85.16**	19.56**	0.65

* p = 0.05 ** p = 0.01

Table 24

Mean Scores on Attitudes for Phoenix, Sherman, and Stewart Indian Schools and Phoenix Union High School

Attitude	School			
	Indian Schools			Phoenix Union High School
	Phoenix	Sherman	Stewart	
Recreation	3.45	3.53	3.50	3.53
Teachers	3.13	3.32	3.43	3.83
Self	3.46	3.54	3.59	3.25
Home toward School	3.54	2.73	2.75	3.14
Value of Education	2.81	2.95	3.01	3.40

Table 25

Order of Mean Scores* on Attitude for Phoenix, Sherman and Stewart Indian High Schools and Phoenix Union High School

Attitude	Schools			
	1	2	3	4
Recreation	Phoenix	Stewart	Sherman	PUHS
Teachers	Phoenix	Sherman	Stewart	PUHS
Self	PUHS	Phoenix	Sherman	Stewart
Home toward School	Phoenix	Sherman	Stewart	PUHS
Value of Education	Phoenix	Sherman	Stewart	PUHS

* Underlining indicates no significant difference between schools so joined.

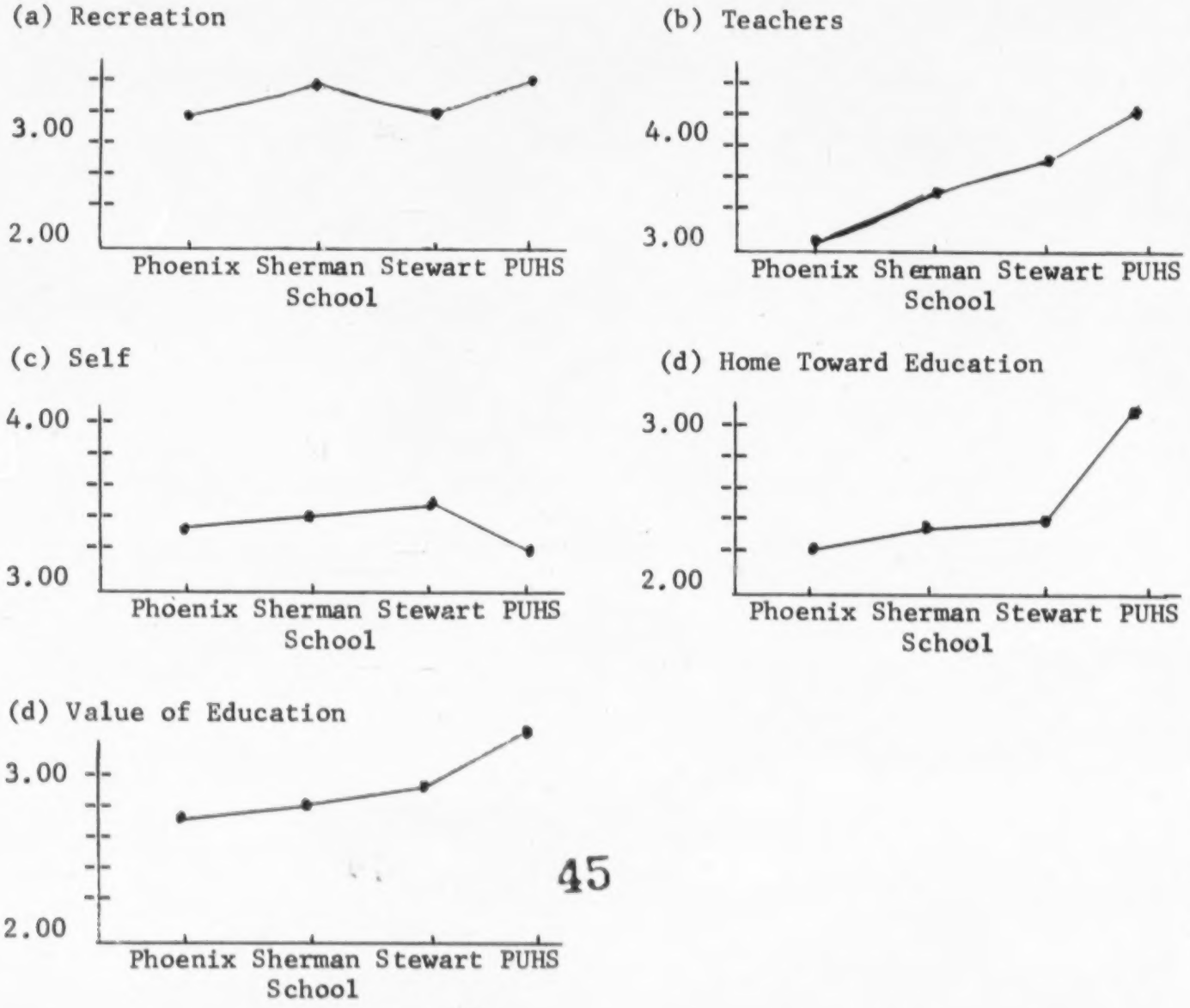
3. PUHS had a better attitude toward self than Phoenix, Sherman, and Stewart; Phoenix had a more positive attitude than Sherman and Stewart; but the latter two schools were not significantly different.

4. Phoenix had a more positive attitude of home toward school than Sherman, Stewart, and PUHS; Sherman and Stewart were not significantly different, but both were more positive than PUHS.

5. Phoenix had a more favorable attitude toward value of education than Sherman, Stewart, and PUHS. Sherman had a more positive attitude than Stewart and Phoenix. Stewart had a significantly lower mean score than PUHS. These relationships are also graphed in profile in Figure 9.

Note that Phoenix Indian School had a consistently more positive attitude in all categories except self, where it was second, and that PUHS was consistently more negative in all categories except self, where it was first, keeping in mind that there were no Indians in the PUHS population.

Figure 9. Profile of Mean Scores on Attitudes Classified by School



Sex. Inspection of Table 26 shows that females had lower (better) scores than males on all five attitudes, all of which, except home toward school, had F-ratios significant at either the 0.05 or 0.01 level.

Interaction. F-ratios for interaction between school and sex were significant at the 0.05 level on attitude toward teachers. When male and female students were considered within each school, mean scores classified for male and females within each school, recorded in Table 27, revealed the dual dependence of school and sex upon the attitude toward teachers. That is, in determining which students had the more positive attitude toward teachers, male and female, the outcome depended not only on sex, but also on the school attended, because the sex supremacy was different in the different schools. The reasons for the significant interaction (or dual dependence) were determined by comparing pairs of means with the Scheffe method.

Male and female students within each school were not significantly different in attitude toward teachers, but male and female students in Phoenix, Sherman, and Stewart scored significantly lower (more positive) than male and female students in PUHS, indicated by the graph of mean scores in Figure 10. In addition, female students in Phoenix had more positive attitudes than male and female students in the other three schools.

Table 26

Mean Scores on Attitudes for Male and Female Students

Attitude	Sex		Sig.
	Male	Female	
Recreation	3.52	3.49	NS
Teachers	3.46	3.39	Sig.
Self	3.51	3.42	Sig.
Home Toward School	2.83	2.75	NS
Value of Education	3.11	2.98	Sig.

NS = Not significantly different

Sig. = Significantly different

Table 27

Mean Scores for Significant Interactions on Attitude Toward Teachers Classified by School and Sex

School	Sex	
	Male	Female
Phoenix Indian School	3.24	3.03
Sherman Indian School	3.33	3.31
Stewart Indian School	3.38	3.47
Phoenix Union High School	3.91	3.76

In summary, attitudes differed between schools. Female had better attitudes toward teachers, self, and value of education. Males and females did not differ significantly within each of the four schools in attitude toward teachers, but males and females in the three Indian schools had more positive attitudes than males and females in PUHS. In addition, female students in Phoenix were more positive in attitude toward teachers, than male and females students in the other schools.

School and Age

Attitude scores were classified by school and age and analysis of variance was computed and summarized in Table 28. The results for schools were the same as when scores were classified by school and sex. Discussion of school effects were therefore omitted in this section.

Age. Significant differences between age levels were demonstrated by the F-ratios for attitudes home toward school. Inspection of the mean scores, listed in Table 29, shows that the students in the less than 16 group had more positive attitudes than the students in the 16 or older group on this attitude, indicating that the younger students had more positive attitudes than the older students.

Figure 10. Profile of the Significant Interaction Between School and Sex on Attitude Toward Teachers

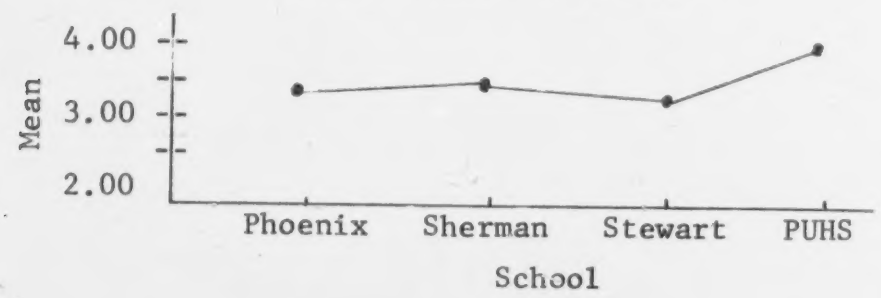


Table 28

Summary of Analysis of Variance
of Attitude Scores Classified by School and Age

Attitude	F-Ratio		
	School	Age	Interaction
Recreation	3.19*	0.32	0.69
Teachers	65.36**	0.09	0.22
Self	39.46**	2.93	0.20
Home toward School	39.89**	10.95**	0.85
Value of Education	77.95**	0.85	2.22

* $p < 0.05$

** $p < 0.01$

Table 29

Mean Scores on Attitudes
Classified by Age Groups

Attitude	Age Group		Sig.[a]
	Less than 16	16 or older	
Recreation	3.50	3.51	NS
Teachers	3.42	3.43	NS
Self	3.48	3.44	NS
Home Toward School	2.71	2.85	Sig.
Value of Education	3.03	3.05	NS

[a]NS = Not significantly different

Sig. = Significantly different

Interaction. None of the F-ratios were significant at the 0.05 level. That is, the differences by age groups were consistent regardless of the school.

School and Parent Marital Status

The analysis of variance for classification of subjects by school and parent marital status resulted in the usual significant differences between schools on each of the attitudes as shown in Table 30, but it can be seen in Table 31 that no significant differences resulted between categories for any of the five attitudes, nor were there any significant interactions. It can be said, therefore, that there was no relationship between parent marital status and attitudes of the students for these five attitudes.

Ethnic Group

Ethnic groups considered in this study were the Mexican-American and Blacks at Phoenix Union High School, and the Papagos, Hopis, Apaches, and Pimas at Phoenix, Sherman, and Stewart Indian schools. Thus, only one-way analyses of variance were accomplished because the six ethnic groups were not common in each of the four schools.

Table 30

Summary of Analysis of Variance of Attitude
Scores Classified by School and Parent Marital Status

Attitude	F-Ratio		
	School	Parents	Interaction
Recreation	3.17*	1.35	0.12
Teachers	69.55**	1.09	0.22
Self	39.84**	1.64	0.26
Home toward School	37.56**	0.30	1.00
Value of Education	77.04**	0.13	0.70

* $p < 0.05$

** $p < 0.01$

Table 31

Mean Scores on Attitudes
Classified by Parent Marital Status

Attitude	Living Together	Not Living Together	Sig.
Recreation	3.52	3.49	NS
Teachers	3.41	3.45	NS
Self	3.47	3.44	NS
Home toward School	2.78	2.81	NS
Value of Education	3.04	3.05	NS

NS = Not significantly different

Sig. = Significantly different

Inspection of Table 32 reveals that the ethnic groups were significantly different at either the .01 level on all scales. These relationships are graphed in Figure 11.

1. The Apache ethnic group had a more negative attitude toward recreation than Blacks, Papagos, Hopis, and Pimas, but did not differ significantly from Mexican-Americans on this attitude. In addition, the Mexican-Americans had a more negative attitude than Hopis and Pimas.

2. Mexican-Americans and Blacks had more negative attitudes toward teachers than all four Indian tribes; and Pimas had a more negative attitude than Papagos.

3. Mexican-Americans and Blacks were more positive than Papagos, Hopis, Apaches, and Pimas on attitude toward self; and Papagos, Hopis, and Pimas had more positive attitudes than Apaches.

4. Hopis had a more favorable attitude of home toward school than Mexican-Americans, Blacks, and the other three Indian tribes. Blacks, Mexican-Americans, and Apaches had a more negative attitude than Papagos, Pimas, and Hopis.

5. Mexican-Americans and Blacks had more negative attitudes toward value of education than the four Indian ethnic groups. Apaches were more negative in this attitude than the remaining Indian ethnic groups.

The results of the ethnic group comparisons seem to indicate that the Mexican-Americans and Blacks have a more negative attitude toward the school program than the Indians, but a more positive self-image. The Apaches, however, are consistently more negative in all attitudes, including attitude toward self.

Table 32

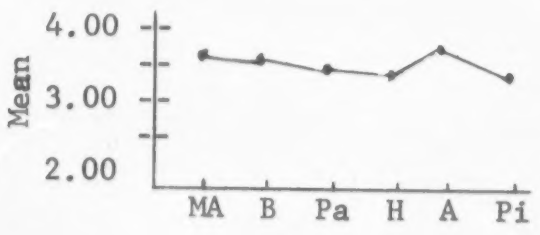
Mean Scores and F-Ratios on Attitudes for Ethnic Groups

Attitude	Ethnic Group						F-Ratio
	Mexican Amer.	Black	Papago	Hopi	Apache	Pima	
Recreation	3.54	3.51	3.49	3.44	3.62	3.42	6.46**
Teachers	3.80	3.86	3.12	3.17	3.20	3.38	61.36**
Self	3.27	3.23	3.55	3.43	3.71	3.42	36.86**
Home Toward School	3.19	2.95	2.67	2.37	2.92	2.68	36.21**
Value of Education	3.40	3.40	2.84	2.70	3.15	2.88	78.10**

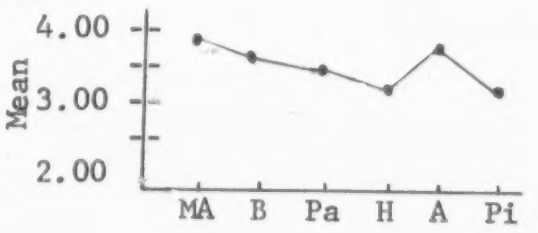
* $p < 0.05$
** $p < 0.01$

Figure 11. Profile of Mean Scores of Attitudes of Ethnic Groups

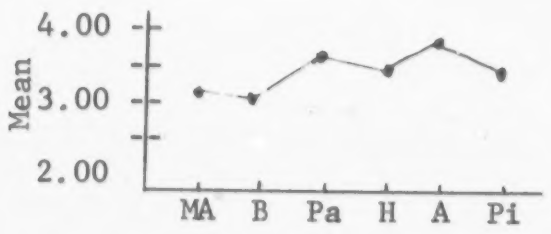
(a) Recreation



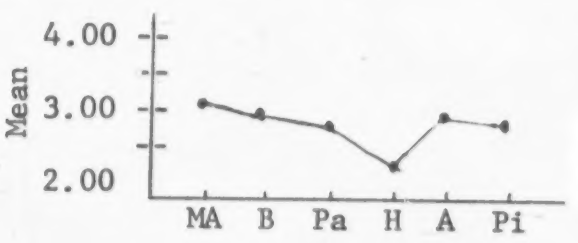
(b) Teachers



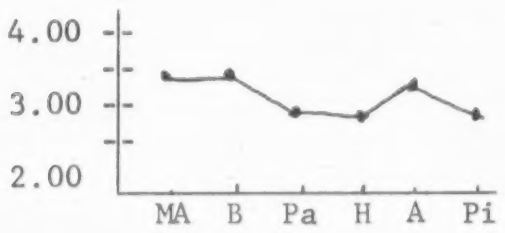
(c) Self



(d) Home Toward School



(e) Value of Education



MA = Mexican-American
B = Black
Pa = Papago
H = Hopi
A = Apache
Pi = Pima

School and Grade Level

Measures of attitudes were classified by school and grade level and tested for differences between schools and between grade levels, and for grade level with the analyses of variance summarized in Table 33. Differences between schools were the same as shown previously and therefore were omitted in this section.

Grade Level. F-ratios for attitudes toward recreation and self were significant at the 0.05 level. Mean scores for grade levels were listed in Table 34. The mean scores for grade level 10-12 for attitudes toward recreation and self were more positive than for grade level 9-10.

Interaction. Mean scores for attitudes where there were significant interactions between school and grade level were recorded in Table 35 and displayed with profiles in Figure 14. There was a significant interaction for the attitude of home toward school.

The grade levels were not significantly different within each school with regard to the attitude of home toward school. However, grade level 9-10 in the Phoenix and Stewart Indian schools scored more positive attitudes than grade level 9-10 in Phoenix Union High School. Grade

level 11-12 in the three Indian schools showed attitudes which were more positive than those of grade level 11-12 in Phoenix Union High School.

Table 33

Summary of Analysis of Variance of Attitude Scores Classified by School and Grade Level

Attitude	F-Ratio		
	School	Grade Level	Interaction
Recreation	4.50**	6.43**	0.96
Teachers	75.34**	0.09	0.09
Self	39.66**	14.84**	0.15
Home Attitude Toward School	41.52**	0.61	2.83*
Value of Education	89.58**	2.71	1.31

* $p < 0.05$
** $p < 0.01$

Table 34

Mean Scores on Attitudes Classified by Grade Level

Attitude	Grade Level		Sig.[a]
	9-10	11-12	
Recreation	3.53	3.48	Sig.
Teachers	3.43	3.42	NS
Self	3.50	3.41	Sig.
Home Attitude Toward School	2.77	2.80	NS
Value of Education	3.06	3.01	NS

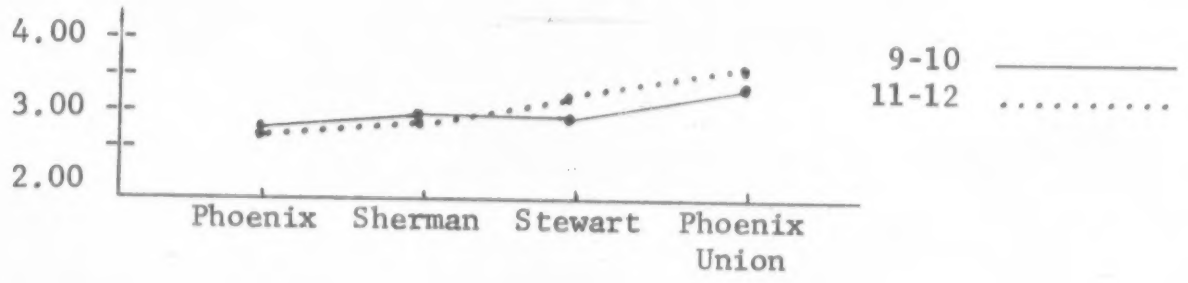
[a]NS = Not significantly different
Sig. = Significantly different

Table 35

Mean Scores for Significant Interactions on Attitudes of Home Toward School Classified by Grade Level

School	Grade Level	
	9-10	11-12
Phoenix Indian	2.57	2.45
Sherman Indian	2.75	2.72
Stewart Indian	2.71	2.77
Phoenix Union	3.05	3.27

Figure 12. Profile of Significant Interactions on Attitude of Home Toward School Classified by School and Grade



School and Extracurricular Activities

Disregarding differences between schools for the reason explained previously and concentrating on differences between students classified by extent of participation in extracurricular activities, the analyses of variance summarized in Table 36 revealed the significance of these differences.

Participation in Extracurricular Activities

Inspection of Table 36 shows significant F-ratios for all attitudes.

56

Table 36

Summary of Analysis of Variance of Attitude Scores Classified by School and Extent of Participation in Extracurricular Activities

Attitude	F-Ratio		
	School	Activities	Interaction
Recreation	3.91**	60.82**	1.67
Teachers	60.81**	4.74*	1.94
Self	38.73**	20.70**	0.08
Home Attitude Toward School	26.30**	29.83**	0.07
Value of Education	65.08**	32.96**	1.42

* $p < 0.05$
** $p < 0.01$

The mean scores for scales were listed in Table 37. Each attitude score for students who responded sometimes-to-very-often was more positive than the corresponding attitude score for students who responded almost-never-to-never. Thus, it can be concluded that there is a definite relationship between a positive attitude and participation in extracurricular activities in all five attitude categories.

Interaction. None of the interactions were significant, indicating that the above conclusion is true regardless of the school.

Table 37

Mean Scores on Attitude Classified by Extent of Participation in Extracurricular Activities

Attitude	Participation in Extracurricular Activities		Sig.
	Sometimes to Very Often	Almost Never to Never	
Recreation	3.45	3.64	Sig.
Teachers	3.40	3.49	Sig.
Self	3.43	3.55	Sig.
Home Toward School	2.72	2.98	Sig.
Value of Education	2.99	3.17	Sig.

[a]Sig. = Significantly different

School and Infractions

Subjects were classified by school and infractions resulting in reports to parents in order to test for differences between categories of incidents and for interactions between school and infractions. F-ratios for these tests were listed in Table 38.

Infractions. Infractions were categorized as never and one-or-more. The F-ratios for attitudes of home toward school and toward value of education were significant at either the 0.05 or 0.01 levels. Observation of Table 39 shows that in attitudes home toward school and value of education, the subjects with no infractions had more positive attitude scores than subjects with one or more infractions.

Interaction. F-ratios for attitudes were not significant at the 0.05 level.

Table 38

Summary of Analysis of Variance of Attitude Scores Classified by School and Number of Infractions Resulting in Report to Parents

Attitude	F-Ratio		
	School	Infractions	Interaction
Recreation	4.07**	0.28	0.56
Teachers	57.78**	2.50	1.48
Self	40.06**	1.01	0.00
Home Toward School	44.52**	4.50*	1.54
Value of Education	87.93**	9.36**	0.64

* $p < 0.05$
** $p < 0.01$

Table 39

Mean Scores on Attitude Classified by Number of Infractions Resulting in Report to Parents

Attitude	Infractions		Sig.
	Never	One or More	
Recreation	3.50	3.51	NS
Teachers	3.40	3.46	NS
Self	3.45	3.47	NS
Home Attitude Toward School	2.76	2.85	Sig.
Value of Education	3.01	3.10	Sig.

[a]NS = Not significantly different
Sig. = Significantly different

School and Suspensions

Differences between the categories of suspensions, never and one-or-more, and interactions between school and suspensions were examined for each attitude as shown by the summary of the analyses of variance summarized in Table 40.

Suspensions. The F-ratios for the attitudes toward recreation, home toward school, and value of education were significant at the 0.05 level. Inspection of the mean scores in Table 41 reveals that the group of students in the never category had a more positive attitude score than the group of students who had one or more suspensions on each of the three attitudes showing significant F-ratios.

Interaction. The F-ratio for the attitude of home toward school recorded in Table 40 was the only significant F-ratio for interaction. Mean scores were classified by school and suspensions in Table 42 and graphed in Figure 13 in order to isolate the differences resulting in the significant interaction.

With regard to attitude of home toward school, the group of students which never had suspensions was not significantly different from the group with one-or-more suspensions within Sherman and Stewart, but the group with no suspensions showed more positive attitudes than the group with one-or-more suspensions within Phoenix and PUHS.

The group of students which never had suspensions within Phoenix had more positive attitude scores than corresponding groups within Sherman, Stewart, and PUHS. The groups which never had suspensions within Sherman and Stewart were not significantly different, but both scored more positive attitudes than the corresponding group within PUHS.

The group of students with one-or-more suspensions within Phoenix, Sherman, and Stewart had more positive attitude scores than the corresponding group within PUHS, but the former three groups were not significantly different.

Thus it can be seen that there is a consistent relationship between a favorable attitude toward the school program and a record of no suspensions from school.

Table 40

Summary of Analysis of Variance of Attitude Scores
Classified by School and Suspensions

Attitude	F - Ratio		
	School	Suspensions	Interaction
Recreation	2.11	5.98*	1.16
Teachers	38.10**	3.45	2.03
Self	24.44**	3.09	0.23
Home toward School	24.48**	19.65**	2.67*
Value of Education	52.87**	28.78**	2.42

* $p < 0.05$

** $p < 0.01$

Table 41

Mean Scores on Attitude Classified
by Number of Suspensions

Attitude	Number of Suspensions		Sig.[a]
	Never	One or More	
Recreation	3.49	3.56	Sig.
Teachers	3.41	3.50	NS
Self	3.45	3.50	NS
Home toward School	2.75	2.98	Sig.
Value of Education	3.01	3.20	Sig.

[a] NS = Not significantly different

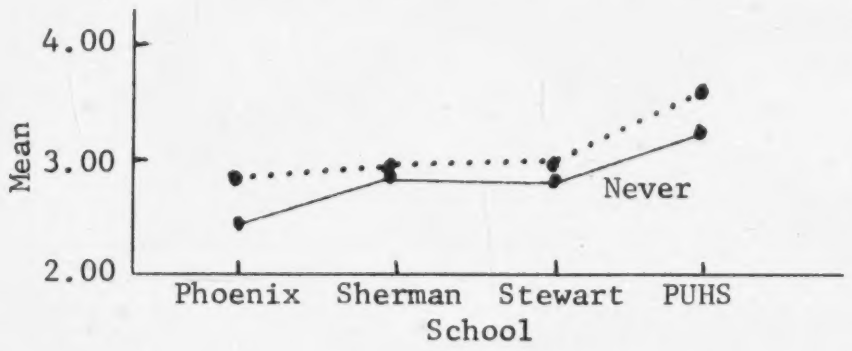
Sig. = Significantly different

Table 42

Mean Scores for Significant Interactions on Attitudes of Home Toward School Classified by School and Number of Suspensions

School	Number of Suspensions	
	Never	One or More
Phoenix	2.48	2.88
Sherman	2.73	2.76
Stewart	2.71	2.86
PUHS	3.07	3.43

Figure 13. Profile of Significant Interaction on Attitude of Home Toward School Classified by School and Number of Suspensions



PART IV

SUMMARY. CONCLUSIONS AND RECOMMENDATIONS

Summary of Attitude Comparisons

The mean scores of students on attitudes toward recreation, teachers, self, home toward school and value of education within the Phoenix, Sherman and Stewart Indian schools were classified by eleven personal characteristics, were compared using analysis of variance in order to determine the relationship between attitudes and the personal characteristics of students in the Indian schools. Similarly, the attitude scores of students within the same three Indian schools and students within Phoenix Union High School were classified and analyzed in order to determine the relationship between attitudes and personal characteristics common to these four schools. Several significant relationships were revealed.

Attitudes in the Three Indian Schools

The attitudes of students within the Phoenix, Sherman and Stewart Indian schools were classified by school, sex, grade level, tribe, years in public school, years in BIA school, suspensions, infractions, and quartiles on the California Achievement Test (Phoenix only). The significant relationships between attitudes and personal characteristics are summarized in Figure 14, where an X indicates a significant relationship.

Figure 14. Summary of Significant Relationships Between Attitudes and Personal Characteristics for Phoenix, Sherman, and Stewart Indian Schools

Personal Characteristics	Attitude				
	Recre-ation	Teachers	Self	Home T'rd School	Value of Education
1. School	X	X	X	X	X
2. Sex			X		X
3. Grade Level	X		X		X
4. Infractions		X	X	X	X
5. Suspensions				X	X
6. Years in Public School	X	X			
7. Years in BIA School		X			X
8. Tribe	X		X	X	X
9. C.A.T. (Phoenix)					

A significant relationship resulted between school and all attitudes. Students in all three schools had positive attitudes, but Phoenix students had more positive attitudes toward all five attitude categories than Stewart and Sherman. There were, however, several differences within and among the schools in regard to several other characteristics.

Although both male and female students had favorable attitudes, female students had more positive attitudes than male students on attitudes toward self and value of education, and female students in Phoenix had

more favorable attitudes toward teachers than male students in Phoenix; but male students in Stewart had more positive attitudes toward teachers than female students in Stewart. Aside from these differences, it did not appear that sex had any strong relationship to the attitudes measured.

When schools were disregarded, the attitudes of students in grade level 11-12 were more favorable than attitudes of students in grade level 9-10 toward education, self, and value of education indicating a more positive attitude on the part of upper grade students for these attitude categories.

Significant relationships were revealed between tribe in all but attitude toward teachers. It is also note-worthy that Apaches seemed to be consistently more negative in attitudes in nearly all comparisons than the other three tribes, while the Hopis and Pimas traded back and forth for the most positive scores on each attitude.

Years in public school did not seem to be a significant factor affecting attitudes, except in attitude toward teachers, where students who had spent 0 years in public school had the most positive attitude and students who had spent 7+ years in public school the most negative, and in attitude toward recreation where there was no definite trend.

A dramatic relationship was revealed between years in BIA school in both attitude toward teachers and attitude toward value of education. In both cases, the greater the number of years spent in a BIA school, the more positive the attitude.

A very definite pattern emerged in classifying the attitudes by scores of the California Achievement Test (CAT). The higher the quartile the more positive the attitude, indicating either that these students had more positive attitudes because they had better achievement, or that they achieved better because of their more favorable attitudes. This relation ship was true in all but attitude toward teachers.

Attitudes Between Indian Schools and PUHS

Attitudes were analyzed in order to compare Indian students in the Phoenix, Sherman and Stewart Indian schools and Mexican-American and Black students in Phoenix Union High School. Attitudes were classified by school and the common personal characteristics sex, age, parent marital status, ethnic groups, grade level, participation in extracurricular activities, infractions, and suspensions. The significant relationships between attitudes and personal characterisitics are summarized in Figure 15, where an X indicates a significant relationship.

A significant relationship resulted between school and all attitudes. With the exception of attitudes toward self, Phoenix had more favorable attitudes than all the other schools, including PUHS. Phoenix Union High School showed a more favorable attitude toward self than the Indian schools. According to these results it is apparent that compared to public school students, Indians in general are more positive in these four attitude categories but their self-image is lower.

Whether a student was male or female was strongly related to the resulting attitudes, since female students showed more favorable attitudes toward teachers, self and value of education than did male students. The direction was also the same in the other two attitudes, but were not significant.

Figure 15. Summary of Significant Relationships Between Attitudes and Common Personal Characteristics for Phoenix, Sherman and Stewart Indian Schools and Phoenix Union High School

Personal Characteristics	Attitude				
	Recreation	Teachers	Self	Home Toward School	Value of Education
1. School	X	X	X	X	X
2. Sex		X	X		X
3. Age				X	
4. Parent Marital Status					
5. Ethnic Group	X	X	X	X	X
6. Grade Level	X		X		
7. Extracurricular Activities	X	X	X	X	X
8. Infractions	X			X	X
9. Suspensions					

Age is a classification which was not a strong determinant, except that the younger students had more positive attitudes of home toward school.

No relationship between parent marital status and any of the attitudes was revealed in the study.

As was mentioned above in the discussion of differences between schools, there were definite differences between Indian school students and public school students, which in this sample consisted mostly of Mexican-Americans and Blacks.

P A R T V

CONCLUSIONS AND RECOMMENDATIONS

From the results of this study, it can be concluded that there are certain personal characteristics that have a relationship to the attitudes of students toward recreation, teachers, self, home toward school, and value of education.

While it was not the purpose of this study to determine the direction of these relationships, that is, whether the attitude was caused by the personal characteristic or vice-versa - in the area of characteristics which are beyond the control of the student, it can be implied that the attitude can usually be expected among students with the given characteristics.

From the observation that the attitudes of Indian students vary according to the school attended, it can be concluded safely that there must be causal conditions which vary on the three campuses. This is a more logical conclusion than that students choose a particular school as a result of his attitude, especially in view of the fact that they are not always free to make that choice themselves.

In fact, several of the characteristics are beyond the control of the student, such as age, sex, grade level, and ethnic group or tribe.

The higher self-image expressed by the Mexican-Americans and Blacks as compared to that of the Indian students was brought out in this study. However, the opposite was true in regard to the other attitudes, except in the area of recreation, where Blacks were on a par with all of the Indians except the Apaches, who were lower in all five attitudes. A significant relationship was revealed between ethnic group and all five attitudes.

Grade level was another factor which had little relationship to attitude results. The only differences were in attitude toward recreation and self, where the higher grade level showed better attitudes.

Students who participated in extracurricular activities very-often or sometimes had more favorable attitudes than those who participated almost-never or never in the case of all five attitudes.

Infractions were categorized as never and one-or-more. The subjects with no infractions had more positive attitudes toward home toward school and value of education than subjects with one or more infractions.

Students who were never suspended had more favorable attitudes toward recreation, home toward school, and value of education than students who were suspended one or more times.

Also, the group of students with one-or-more suspensions within Phoenix, Sherman and Stewart had more favorable attitudes than the corresponding group within PUHS, but the former three groups were not significantly different.

Perhaps it might be argued that years in public school or years in BIA school could be a result of an attitude, but this is rather remote.

Thus, there are really only four characteristics dealt within this study whose direction remains undetermined: suspensions (and this is borderline), infractions, participation in extracurricular activities, and achievement. To determine causality in these relationships it will be necessary to conduct further research of experimental sophistication.

However, in regard to those relationships where causal direction is safely implied, practical information is provided in the results of this study for use by administrators and teachers to anticipate problem areas.

Further research to determine environmental conditions which cause variations in attitudes within the "fixed" characteristics, (sex, age, etc.) would provide information to make it possible to take necessary action to change or introduce or remove these causal conditions. If then, the aforementioned experimental research is also conducted to determine the "non-fixed" characteristics (achievement, behavior, etc.) which are influenced by attitudes, improvements in these characteristics could be objectively effected.

It must also be kept in mind that the attitude of <u>home toward school</u> was not necessarily the actual attitude of the parents, but the impression of the student as to his parents' attitude.

There is no way of concluding from this study the true attitude of the parents or its relationship to the other factors of this study. Further research to obtain this information directly from the parents, preferably by interview technique by Indian research technicians, could provide correlations of the student's impression of his parents' attitude to the actual, as well as relationships of student attitude and home conditions such as economics, etc.

It is hoped that the findings of this study and further research stemming from these conclusions will provide tools for further refinement of the educational program in the Indian schools.

This study was conducted as part of the Title I student "needs assessment" in the Phoenix Area off-reservation boarding schools.

This report was typed by Geraldine M. Williams.

FAATE QUESTIONNAIRE

(FACTORS AFFECTING ATTITUDES TOWARD EDUCATION)

Bureau of Indian Affairs
Education Division
Title I Programs
Phoenix, Arizona

Student Question Booklet

DIRECTIONS: Fill out the separate Student Information Sheet. Then wait for further instructions.

DO NOT WRITE IN THIS BOOKLET

APPENDIX

FAATE STUDENT INFORMATION SHEET

Do not write in this space
1-4
5-6

SCHOOL_____

Indicate with one X in each section the information as it applies to you:

1. Sex (7)
   _____1 Male
   _____2 Female

2. Grade (8)
   _____1 Ninth
   _____2 Tenth
   _____3 Eleventh
   _____4 Twelfth

3. Age (9)
   _____1 11-12
   _____2 13-14
   _____3 15-16
   _____4 17-18
   _____5 19-20
   _____6 over 20

4. Are your parents living together? (10)
   _____1 Yes
   _____2 No

5. Since you have been in high school (grades 9-12), how many different schools have you attended? (11)
   _____1 Only this school
   _____2 This and one other
   _____3 This and two others
   _____4 This and three or more others

6. To what extent do you participate in extra-curricular activities? (12)
   _____1 Never
   _____2 Almost never
   _____3 Sometimes
   _____4 Often
   _____5 Very often

7. Number of incidents leading to a misconduct report to your parents? (13)
   _____1 Never
   _____2 1-3 times
   _____3 4-6 times
   _____4 More than 6 times

8. Number of times suspended or expelled from school? (14)
   _____1 Never
   _____2 1-3 times
   _____3 4-6 times
   _____4 More than 6 times

9. Ethnic group to which you belong (15)
   _____1 Oriental
   _____2 Mexican-American
   _____3 Black
   _____4 Anglo
   _____5 Indian (Tribe_____)
   _____ Other (Specify_____)

Do not write in this space

16-17						

BUREAU OF INDIAN AFFAIRS EDUCATION DIVISION PHOENIX, ARIZONA

DO NOT WRITE IN THIS BOOKLET.

FAATE QUESTIONNAIRE -

Directions: Read each question and indicate the extent of your agreement or disagreement by circling the appropriate number on the separate answer sheet.

1 = Strongly agree

3 = Agree

5 = Disagree

7 = Strongly disagree

Example: At school I learn things I couldn't learn otherwise.

(1) 3 5 7

Circling 1 would indicate that you strongly agree with the statement.

Circling 5 would indicate that you disagree with the statement.

---

1. Going to school helps me learn how to get along with other people.
2. My parents are happy when I receive good grades.
3. My parents see little value in my school work.
4. A person is foolish to continue with school if he can get married or find a job.
5. Many subjects I take are a waste of my time.
6. The course work I take does not interest me.
7. Many poor citizens are very well educated.
8. When I grow up and have children of my own, I would make sure that they go to school.
9. A person learns more by working or staying at home than attending school.
10. I think that my chances for succeeding in school are as good as anybody else.
11. Being suspended or expelled from school would bother me a great deal.
12. I probably will contribute very little to society in general.
13. I would rather lie to someone than tell the truth about myself.
14. If people would only treat me right, I would do more than I have so far.

15. Athletes receive special attention from many of their teachers.

16. Physical education is an important subject which helps a person develop desirable social habits.

17. Physical education does not help a person develop self-confidence.

18. Regular exercise is good for one's general health.

19. Being together with people during physical activity is fun.

20. What I do after school should not be a concern of my teachers.

21. I frequently learn more during recreational activities than I do during my regular classroom sessions.

22. Schools spend too much time and money trying to plan recreational activities.

23. I have very little to say about after school activities.

24. Most of my friends think that this school has a poor recreational program.

25. Many people with good jobs have little or no education.

26. I can learn something worthwhile from all of my classes.

27. My teachers do everything they can to help me understand my class work.

28. If I had more say about classroom activity, I would be willing to work harder on my subjects.

29. Doing "your own thing" is alright so long as it does not hurt anyone.

30. I would rather be at home than in school.

31. If I had a serious personal problem, my teacher could probably help me solve it.

32. Disciplinary rules are necessary so that the school can be able to help every student.

33. I feel inferior as a person compared to many of my friends.

34. I welcome someone's criticisms of the things I do wrong.

35. I find it easier to daydream than to seriously consider "who I am" or what I want to become.

36. Students who participate in sports activities are not likely to be involved in disciplinary problems.

37. Physical education activities do not teach a person to control his emotions.

38. I take physical education only because it is required.

39. I do not really see any value in improving or developing my physical skills.

40. Physical education does more harm to me than it does good.

41. In order to succeed in life a person should attend school regularly.

42. Hitting someone or damaging property is a good way to solve problems.

43. Good citizens are generally well educated.

44. I would like to have teachers spend less time talking and give me more time to do other things in class.

45. Many of my classes have very little to offer me.

46. Most of the classes I take will help me in finding a job.

47. Having a high school diploma really helps a person find a job.

48. The people in my home are very interested in the things I do at school.

49. The more education a person has the better he should be able to enjoy life.

50. People who have a high school diploma are probably easier to get along with than those who have dropped out.

51. I don't really care if I have something to do after school or not.

52. My friends who are active in recreational activities are more popular than I am.

53. Learning how to dance, to paint, or to sing is not really important to me.

54. I would like my school to have more recreational activities for after school hours than it does now.

55. Physical education classes help a person to develop his ability to be a good citizen.

56. Physical skill in active games or sports is not necessary for a person to lead a full active life.

57. Physical skills are important to me.

58. Hard physical activity works off harmful emotional feelings.

59. If any classes should be dropped from school programs, physical education should be one of the subjects dropped.

60. Physical education activities are not helpful for making friends.

61. I spend a lot of time planning for the things I will do in the future.

62. I am frequently upset by the way I look to others.

63. Being suspended or expelled from school would upset my parents a great deal.

64. My time spend studying could be used much better doing other things.

65. I would like school better if more sports and recreational activities were available.

66. Schools have too many rules and regulations.

67. It is alright to violate the rights of other people so long as a person is doing his "own thing."

68. Teachers are too strict.

69. The teachers I have do not really understand me.

70. Most of my courses have value to me.

71. People who are unable to find good steady work often have little or no education.

72. A good education will help me get along better with the people in my home.

73. My parents are not concerned about my grades in school.

74. The amount of education a person completes has little to do with his ability to get along with people.

75. I have learned very little about getting along with people since I started to school.